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MOTOR DRIVEN SPOT AND LINT REMOVING FOUNTAIN BRUSH

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Fig. 1

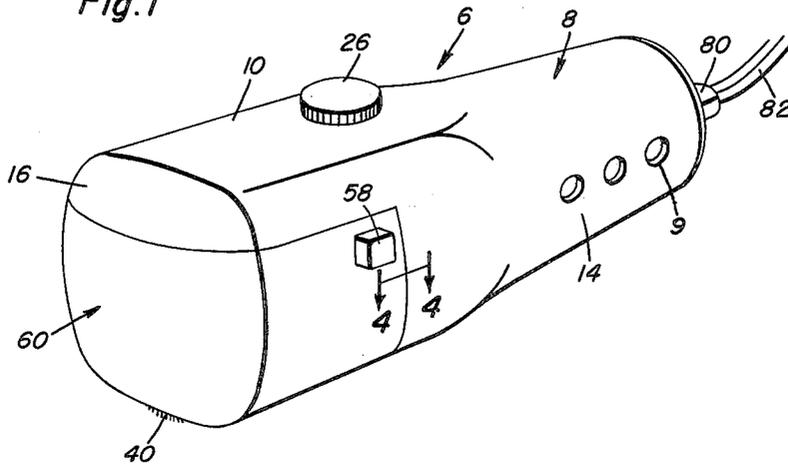


Fig. 2

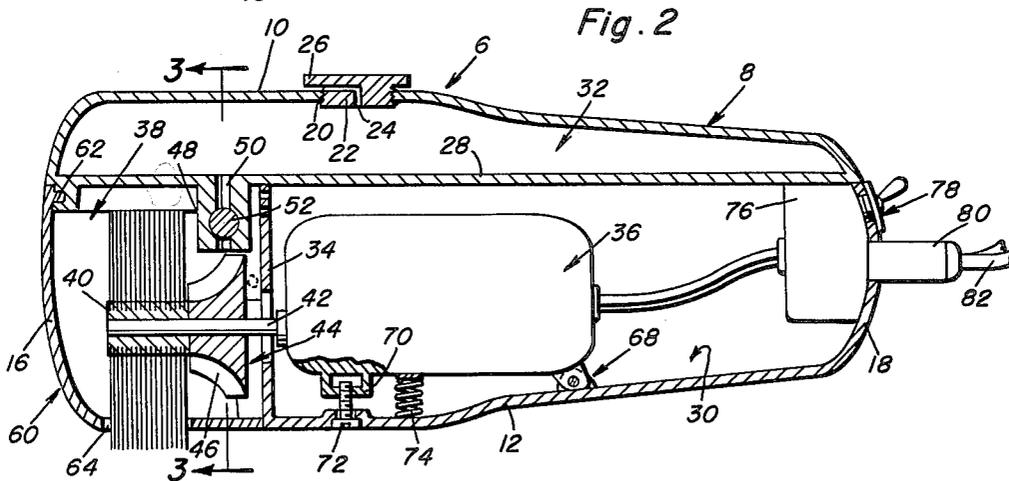
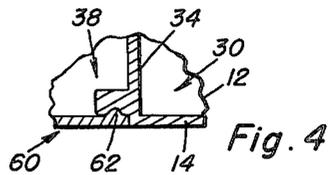
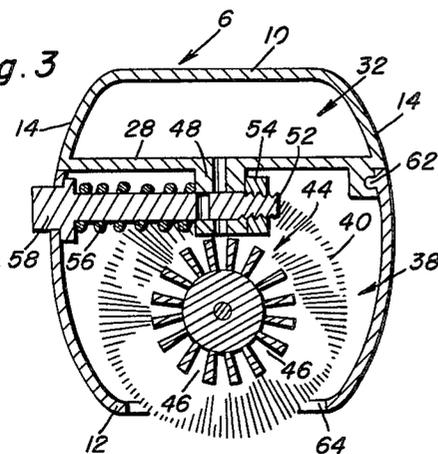


Fig. 3



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MOTOR DRIVEN SPOT AND LINT REMOVING FOUNTAIN BRUSH

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3 Claims. (Cl. 15—24)

The present invention relates to an improved portable manually maneuverable rotary brush which is expressly and suitably constructed and designed to remove lint, spots or, wherever necessary or desired, for vigorously brushing and thus cleaning garments, for example, suits, coats, dresses and the like.

More specifically, the invention comprehends the provision of a simple, practical and economical motorized rotary brush which is equipped with properly cooperating facilities which function to readily and effectually remove grease, oil, fresh paint and spots of an oily nature and powder marks around the collars of coats and dresses. To this end, a construction is provided, primarily for home use, which, exercising nominal practice, but without requiring unusual skill, serves to achieve the end results desired.

In carrying out the intended principles of the construction, operation and use, a highly practicable brush has been devised and which may be charged with a suitable non-inflammable cleaner fluid which will be brushed on the surface acted on; or, alternatively, may be used without the fluid for dry brushing and line removing purposes.

Briefly, a preferred embodiment of the invention comprises a hollow tank-like casing having a portion thereof shaped and sized to function as a convenient handle. The casing is of appropriate material and over-all size and is elongated. It is provided interiorly with a lengthwise horizontal partition which functions to divide the interior into a lower main compartment and a superposed upper auxiliary compartment, the latter constituting a handy reservoir for storing and dispensing a non-inflammable cleaning preparation. There is a filler hole and screw type filler plug mounted in the top wall which allows the cleaning fluid or preparation to be handily placed in the reservoir. Mounting a motorized brush in the main compartment and providing a limited opening in the bottom wall permits a segmental portion or sector of the brush to protrude to the exterior for application and use. A suitable valve is carried by the partition and affords communication between the upper and lower compartments, and the valve is provided with accessible push-button means or the like so that it may be opened and closed at will.

A feature in the preferred embodiment of the above construction has to do with an adjustably mounted motor provided with a shaft on which the bristles or other form of brush is keyed for rotation. The shaft also carries a bladed rotor, and the latter is in alignment with the valve means so that the cleaning preparation from the reservoir is distributed into the brush, centrifugal forces serving to render the brush effective in operation.

Other objects, features and advantages will become more readily apparent from the following description and the accompanying sheet of drawings.

In the drawings, wherein like numerals are employed to designate like parts throughout the views:

Figure 1 is a perspective view of a multipurpose mo-

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torized rotary garment cleaning brush constructed in accordance with the principles of the present invention;

Figure 2 is a central lengthwise sectional view, with parts in elevation, taken on a slightly enlarged scale and illustrating virtually all of the essential details;

Figure 3 is a cross-section on the vertical line 3—3 of Figure 2; and

Figure 4 is an enlarged fragmentary section on the horizontal line 4—4 of Figure 1.

The over-all casing is denoted in the drawings by the numeral 6 and it is of suitable material and dimensions, and is generally elongated as illustrated. It is hollow and of any appropriate shape or configuration with the rear end portion preferably gradually tapering and approximately cylindrical in cross-section to provide a handle 8. More specifically, the casing comprises a top wall 10, bottom wall 12, longitudinal side walls 14 and front and rear end walls 16 and 18 respectively. The top wall is provided with a screw threaded filler hole 20 to accommodate the screw threaded portions of a filler plug 22. This has an L-shaped passage 24 and a suitably knurled exteriorly disposed finger grip 26. When the plug is in the position shown in Figure 2, the passage provides an open vent. The vent is closed by screwing the plug in tight, as is obvious.

There is a horizontal partition near the top suitably mounted, and this partition 28 defines a lower main compartment 30 and an upper auxiliary compartment 32. It is the latter compartment which constitutes the aforementioned reservoir, and in practice, this is adapted to contain a suitable non-inflammable cleaning fluid, a nominal amount, of course. In the lower compartment and at right angles to the partition 28 is a complementary vertical partition 34 which is appropriately vented and which divides the lower compartment into a housing for the electric motor 36 and a chamber 38 for the rotary brush 40. The motor has a shaft 42 extending through the partition and into the compartment, and in practice, the brush is removably keyed on the shaft. Between the brush and partition 34 and fixedly keyed on the shaft, there is a rotor 44. This is marginally fluted to provide grooves or flutes 46 as well as blades. This thus grooved or bladed rotor serves to feed and distribute the cleaning preparation to the brush. This is accomplished by providing the partition 28 with a depending neck 48 in alignment with the rotor, said neck having a bore or passage 50 affording communication between the reservoir and chamber 38. The cleaning fluid gravitates onto the rotor. It is fed into the brush and the brush by centrifugal action applies the cleaner to the garment (not shown). A suitable valve is provided, as shown in Figure 3, and this comprises a plunger rod 52 having an end portion slidably mounted in a passage provided therefor in the neck at right angles to the passage 50. The plunger is retained in place by nut 54. It is provided intermediate its ends with a port which is registerable with the passage 50 whereby the valve may be thus opened and closed. The numeral 56 designates a return spring which normally serves to close the valve. On the left hand end of the plunger, as shown in Figure 3, a suitable head is slidably mounted, and this constitutes a handy push-button, making it convenient to open and close the valve at will.

The portions constituting the walls of the brush chamber 38 are constructed to provide a readily removable cover or closure 60. This is marginally provided with a bead 62 which snaps into appropriate retaining means provided therefor. Thus, the chamber may be opened and closed to permit access for changing the brush or for cleaning the surfaces of the parts. A suitable restricted slot or opening 64 serves to expose a segmental portion of the margin of the brush, permitting it to pro-

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trude to the desired extent for brushing and cleaning work.

Reverting to the motor 36, one end of this is hingedly mounted on the bottom wall, as denoted at 68. The bottom of the motor casing has an appropriate threaded mount 70 for an adjusting screw 72 which latter is recessed into the bottom wall but is nevertheless exposed for adjustment purposes. This serves to tilt the motor and to adjust the degree of protrusion of the brush 40. A coil spring 74 is interposed between the wall 12 and the bottom of the motor casing to maintain the motor casing in the desired operating position.

Any suitable electrical receptacle or switch box 76 is provided and mounted in the rear end portion of the motor compartment, and this is exteriorly provided with an off and on switch 78. The motor is preferably of a reversible type. The switch box is constructed to accommodate an attachable and detachable plug 80 carried by the current conductor cord 82.

A dry solvent and brush are used to remove grease, oil, fresh paint and spots of an oily nature and powder marks around the collars of coats or dresses. As very little solvent is needed, a little practice will suffice to get the knack of using the brush. For instance, in the removal of the powder marks on a lady's coat collar, lay the coat down on a table or ironing board. Start brush and open valve moving back and forth. When sufficient solvent is on garment, take thumb off the push-button and continue over the spotted area for a few seconds. This will feather out and the air from brush 40 and fan 46 will dry it quickly, leaving no ring. To remove perspiration stains from ladies' dresses, a suitable deodorizing chemical is used. A small amount is placed in a bowl, one part to five parts water. Fold a hand towel and place under desired area to absorb liquid. Dampen a sponge and work over stain always towards center of stained area. Now, use a dry towel to absorb surplus moisture. Start brush and feather out. The warm air coming through brush from the motor has the same effect as the professional spotter expects from his spotting board equipped with compressed air and steam.

Reverting to the casing, it will be noted that the side walls 14 are provided with suitable air circulating and motor cooling vents 9.

This is not a vacuum type brush. During the spotting procedure and feathering out, the motor should turn clockwise inasmuch as the rotor blades will have to throw air currents forwardly. Also, while brushing and delinting, no solvent is used. Therefore, it is desirable to have the brush rotate in either direction, this to adapt itself to the lay of the nap on different garments.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly, all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

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What is claimed as new is as follows:

1. A portable hand actuable garment cleaning brush comprising a hollow tank-like casing having a portion thereof shaped and sized to function as a convenient handle, said casing being elongated and having top, bottom and side walls and forward and rearward end walls, a lengthwise horizontal partition mounted in said casing dividing the same into a lower main compartment and an upper auxiliary compartment, the latter constituting a reservoir for a selected non-inflammable cleaner, a filler plug in the top wall whereby the cleaner may be handily placed for use in said reservoir, a motorized brush mounted for operation in said main compartment, said bottom wall having an opening therein through which a segment of a marginal portion of said brush protrudes for handy use, a valve carried by said partition and affording communication between said compartments, said valve located for operative cooperation with said brush, accessible means carried by said casing for opening and closing said valve at will, and a vertical partition mounted in said main compartment and dividing said compartment into a rearward motor housing and a forward brush chamber, a motor in said housing operatively coupled to said brush, walls of said chamber being detachable and defining a removable and applicable cover for said chamber.

2. A portable hand actuable garment cleaning brush comprising a hollow tank-like casing having a portion thereof shaped and sized to function as a convenient handle, said casing being elongated and having top, bottom and side walls and forward and rearward end walls, a lengthwise horizontal partition mounted in said casing dividing the same into a lower main compartment and an upper auxiliary compartment, the latter constituting a reservoir for a selected non-inflammable cleaner, a filler plug in the top wall whereby the cleaner may be handily placed for use in said reservoir, an electric motor hingedly mounted in said main compartment, said motor having a shaft, a rotary brush removably keyed on said shaft for rotation therewith, means for adjusting the position of said motor, shaft and brush, the bottom wall of said casing having an opening for exposing the bristles of said brush and the latter projecting into and through said opening, a valve carried by said partition and affording communication between said compartments, said valve located for operative cooperation with said brush, and accessible means carried by said casing for opening and closing said valve at will.

3. The structure defined in claim 2 and the combination therewith of a coil spring interposed between the bottom wall of the casing and bottom of the motor, and an accessible adjusting screw operatively connected with said casing and motor for tilting the motor.

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